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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/680,242

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Kazuomi Kato

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EXAMINER

BERMAN, MELISSA J

ART UNIT

PAPER NUMBER

2129

MAIL DATE

DELIVERY MODE

08/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/680,242

Applicant(s)

KATO, KAZUOMI

Examiner

Melissa J. Berman

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,14-16 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-13,17,18 and 20-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to an AMENDMENT entered 6/8/2007 for the patent application 10/680242 filed on 10/8/2003. The First Office Action of 3/8/2007 is fully incorporated into this Final Office Action by reference. Examiner acknowledges Applicant's claim for foreign priority based on 2002-296230 filed on 10/3/2002.

Status of Claims

Claims 2, 3, 14-16 and 19 have been cancelled by the applicant. Claims 1, 5-13 and 23-26 have been amended by the applicant. Claims 1, 4-13, 17-18, 20-26 are examined in this Office Action.

Specification

Response to Arguments

Applicant's arguments, see page 18-19, with respect to Specification have been fully considered and are persuasive. The objection of the specification has been withdrawn.

Claim Objections

Response to Arguments

Applicant's arguments, see page 18-19, with respect to Claim Objections have been fully considered and are persuasive. Examiner thanks Applicant for clarifying that the predetermined operation of claim 20 is a specific, anticipated operation. The objection of the claim has been withdrawn.

Claim Rejections - 35 USC § 101

Response to Arguments

Applicant's arguments, see page 19-20, with respect to Claim Rejections - 35 USC § 101 have been fully considered and are persuasive. The rejection under 35 USC § 101 has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 13, 17, 18, and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Luciw et al.** (Patent No. 5390281), hereafter referred to as **Luciw** and further in view of **Clancey et al.** (Patent No. 6216098), hereafter referred to as **Clancey**.

Claim 1

Luciw disclosed an information terminal device for executing, based on an operation input by a user, a function corresponding to the operation, comprising:

an input section for inputting an operation required by the user (see e.g., col 4-6, for example "words and phrases input either through serial port or via stylus" col 6 lines 36-40 and Figure 1, objects 20 "Display & Input Assembly" and 18 "I/O");

an operation history storing section for storing information about the operation input to the input section, as an operation history (see e.g., col 7-10, for example "knowledge base" stores information based on observations of user and user input and "... a method of accessing the knowledge base by means of an opportunistic event. As used herein, an 'opportunistic event' is a

significant event generated within the system without direct user input which nonetheless presents an opportunity for providing deductive assistance to the user. As also used herein, 'user intent' includes intents derived both from user initiated events and from opportunistic events" col 9 lines 18-35, which reads on the storage and access of operation history and see e.g., Figures 4a-4e);

an operation anticipating section for anticipating, when the operation is input to the input section, a next operation to be subsequently input by the user, based on operation history information stored in the operation history information storing section (see e.g., col 1-18 for example "... collecting a number of significant observations into a set. The significant observation set is compared to a plurality of intent templates and, if there is at least one match ... the deductive assistant has deduced a possible intent" col 3 lines 4-13, and col 5 lines 65-68 to col 6 lines 1-3, and Figure 3 represent a hypothesis and intent of the user based on the user's previous actions, which reads on anticipating); and

Luciw does not particularly call for

an anticipated operation supporting section for comparing an actual next operation which is newly input from the input section, after the operation anticipating section has anticipated the next operation, with the anticipated next operation, and providing the user with a notification when the anticipated next operation is different from the actual next operation.

However **Clancey** teaches

an anticipated operation supporting section (comparator, see e.g., col 31-32) for comparing an actual next operation which is newly input from the input section (actions of the user, see e.g., col 31-33), after the operation anticipating section has anticipated the next

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operation (predictions, predictions generated by the model, see e.g., C 31-33, EN: predications are inherently created prior to being compared, otherwise, they would not exist), with the anticipated next operation (predictions, predictions generated by the model, see e.g., C 31-33), and providing the user with a notification when the anticipated next operation is different from the actual next operation (differences, issues or problems, 144, Fig 4, see e.g., C 31-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of **Luciw** with **Clancey** because using a comparator to compare an anticipated action with an actual next operation creates a more accurate model to the user, instead of problem solving through reasoning. By integrating a comparison of the actual operation with the anticipated operation, the user is able to receive facts the user would be interested in (**Clancey**). **Luciw** and **Clancey** both pertain to the issue of anticipating an operation of a user using user input and predicted user input. A comparator of user input and predicted action is another obvious technique to address this issue.

Claim 4

Luciw disclosed the information terminal device according to claim 1, wherein the operation history storing section stores the operation history information, which is operation information described in order of operations consecutively performed by the user (see e.g., col 1-18, for example “system events are stacked in one or more queues by (FIFO) basis ...” col 7 lines 19-22 and col 9 lines 48-49 and lines 66-67 which use time as a classifier, which reads on “order of operations consecutively” performed).

Claim 5

Luciw disclosed the information terminal device according to claim 1, wherein the operation history storing section stores the operation history information, which is operation information classified in accordance with an item of operations consecutively performed by the user (see e.g., col 1-18, for example col 8 –11 “templates” classify information, and col 12, lines 36-50 where the variable “NMATCH” describes the number of matches in the operation history information, which reads on a statistical description of the operations).

Claims 6, 7

Luciw disclosed the information terminal device according to claim 4, wherein the operation anticipating section is further operable to calculate a frequency of a next operation subsequently operated after the operation previously input to the input section, based on the operation history information, and anticipate, based on the calculated frequency, a next operation having a highest probability of being subsequently executed, as a next operation to be input by the user (see e.g., col 1-18, for example “variable k, which is the number of template matches and , therefore, the number possible user intents” col 12 lines 38-68 and col 13 lines 1-36 calculates the frequency and where the function “WEIGHT(i)” uses history information and anticipates the next operation based on percentages, which reads on probability as well as col 16 lines 65-68 to col 17 lines 1-5 which “Scheduling” has the highest probability of being executing based on a probability).

Claims 8, 9

Luciw disclosed the information terminal device according to claim 6, wherein the operation anticipating section is operable to calculate the frequency from consideration of at least one operation subsequently executed before the operation input to the input section (see e.g., col 1-

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18, for example “NMATCH” col 12-13 where “NMATCH” holds the frequency of the operation input and is used by the operation anticipating section).

Claims 10, 11

Luciw disclosed the information terminal device according to claim 7, wherein the operation anticipating section is operable to calculate the frequency based on the operation history information every time an operation is input to the input section (see e.g., col 1-18, for example “NMATCH” col 12-13 where “NMATCH” holds the frequency of the operation input and is used by the operation anticipating section).

Claims 12, 13

Luciw disclosed the information terminal device according to claim 7, wherein the user is allowed to select whether a most recent frequency calculated based on latest operation history information is used or a previous frequency is used for anticipating a next operation (see e.g., col 1-18, for example “weight(i)” calculates frequency, col 13, and a user sets a threshold value for anticipating a next operation thereby limiting if the calculated frequency is used).

Claims 17, 18

Luciw disclosed the information terminal device according to claim 6, wherein the operation anticipating section causes a next operation, which is opposite or contradictory to the operation input to the input section and included in next operations subsequently executed after the operation input to the input section, to be ruled out as a next operation to be anticipated (see e.g., col 1-18, for example “if there is not at least one match, the process control returns to step 58” col 11 lines 59-60 and col 13 lines 2-44 which describes if the operation input does not match an

intent, it will not be entered as the next operation to be anticipated, inherently ruling the next operation to be anticipated out).

Claim 20

Luciw disclosed the information terminal device according to claim 1, further comprising an operation detecting section for determining whether or not the operation input to the input section is a predetermined operation, wherein

the operation anticipating section anticipates a next operation to be input by the user with respect only to an operation determined by the operation detecting section as a predetermined operation (see e.g., col 1-18, especially "... collecting a number of significant observations into a set. The significant observation set is compared to a plurality of intent templates and, if there is at least one match ... the deductive assistant has deduced a possible intent" col 3 lines 4-13, and col 5 lines 65-68 to col 6 lines 1-3, and col 6 lines 34-40, Figure 3 represent a hypothesis and intent of the user based on the user's previous actions as well as actions not specifically initiated by a user, which reads on predetermined and anticipating).

Claim 21

Luciw disclosed the information terminal device according to claim 1, further comprising an information managing section for managing special information about the operation input to the input section, wherein

the operation history storing section stores, as operation history information, information about the operation input to the input section along with the special information supplied from the information managing section (see e.g., col 1-18, for example col 6 lines 36-40 and col 8-9 where time, date, location read on special information), and

the operation anticipating section anticipates a next operation to be input by the user, based on the operation history information, which includes the special information, stored in the operation history storing section (see e.g., col 1-18 for example "... collecting a number of significant observations into a set. The significant observation set is compared to a plurality of intent templates and, if there is at least one match ... the deductive assistant has deduced a possible intent" col 3 lines 4-13, and col 5 lines 65-68 to col 6 lines 1-3, and Figure 3 represent a hypothesis and intent of the user based on the user's previous actions, which reads on anticipating).

Claim 22

Luciw disclosed the information terminal device according to claim 21, wherein the special information includes at least any one of a date, a time, and a day of a week when the operation was input to the input section, a user type, an area, and a traveling status (see e.g., col 1-18, for example col 6 lines 36-40 and col 8-9 where time, date, location read on special information).

Claim 23

Luciw disclosed an information terminal device for executing, based on an operation input by a user, a function corresponding to the operation, comprising:

an input section for inputting an operation required by the user (see e.g., col 4-6, for example "words and phrases input either through serial port or via stylus" col 6 lines 36-40 and Figure 1, objects 20 "Display & Input Assembly" and 18 "I/O");

a transmitting section for transmitting information about the operation input to the input section to a server as an operation history (see e.g., col 4, for example "input/output (I/O) circuitry);

a receiving section for receiving, from the server, information about a next operation anticipated by the server to be subsequently input by the user after the operation input to the input section (see e.g., col 1-18 for example "... collecting a number of significant observations into a set. The significant observation set is compared to a plurality of intent templates and, if there is at least one match ... the deductive assistant has deduced a possible intent" col 3 lines 4-13, and col 5 lines 65-68 to col 6 lines 1-3, and Figure 3 represent a hypothesis and intent of the user based on the user's previous actions, which reads on receiving the anticipated operation).

Luciw does not particularly call for

an anticipated operation supporting section for comparing an actual next operation which is newly input from the input section, after the operation anticipating section has anticipated the next operation, with the anticipated next operation, and providing the user with a notification when the anticipated next operation is different from the actual next operation.

However **Clancey** teaches

an anticipated operation supporting section (comparator, see e.g., col 31-32) for comparing an actual next operation which is newly input from the input section (actions of the user, see e.g., col 31-33), after the operation anticipating section has anticipated the next operation (predictions, predictions generated by the model, see e.g., C 31-33, EN: predications are inherently created prior to being compared, otherwise, they would not exist), with the anticipated next operation (predictions, predictions generated by the model, see e.g., C 31-33), and providing the user with a notification when the anticipated next operation is different from the actual next operation (differences, issues or problems, 144, Fig 4, see e.g., C 31-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of **Luciw** with **Clancey** because using a comparator to compare an anticipated action with an actual next operation creates a more accurate model to the user, instead of problem solving through reasoning. By integrating a comparison of the actual operation with the anticipated operation, the user is able to receive facts the user would be interested in (**Clancey**). **Luciw** and **Clancey** both pertain to the issue of anticipating an operation of a user using user input and predicted user input. A comparator of user input and predicted action is another obvious technique to address this issue.

Claim 24

Luciw disclosed an information terminal device for executing, based on an operation input by a user, a function corresponding to the operation, comprising:

an input section for inputting an operation required by the user (see e.g., col 4-6, for example “words and phrases input either through serial port or via stylus” col 6 lines 36-40 and Figure 1, objects 20 “Display & Input Assembly” and 18 “I/O”);

a storing section for storing, in a storage medium, information about the operation input to the input section, as an operation history (see e.g., col 7-10, for example “knowledge base” stores information based on observations of user and user input and “mass storage ... ROM ... hard disk drive” which reads on the storage and operation history);

an obtaining section for obtaining operation history information stored in the storage medium when the operation is input to the input section (see e.g., col 7-10, for example “knowledge base” stores information based on observations of user and user input and “mass storage ... ROM ... hard disk drive” which reads on the storage and operation history and it is

inherent that these are accessed and obtained since they are used to anticipate an operation in col 3 lines 4-13, and col 5 lines 65-68 to col 6 lines 1-3);

an operation anticipating section for anticipating a next operation to be subsequently input by the user after the operation input to the input section, based on the operation history information obtained by the obtaining section (see e.g., col 1-18 for example "... collecting a number of significant observations into a set. The significant observation set is compared to a plurality of intent templates and, if there is at least one match ... the deductive assistant has deduced a possible intent" col 3 lines 4-13, and col 5 lines 65-68 to col 6 lines 1-3, and Figure 3 represent a hypothesis and intent of the user based on the user's previous actions, which reads on anticipating); and

Luciw does not particularly call for

an anticipated operation supporting section comparing an actual next operation which is newly input from the input section, after the operation anticipating section has anticipated the next operation, with the anticipated next operation, and providing the user with a notification when the anticipated next operation is different from the actual next operation.

However **Clancey** teaches

an anticipated operation supporting section (comparator, see e.g., col 31-32) for comparing an actual next operation which is newly input from the input section (actions of the user, see e.g., col 31-33), after the operation anticipating section has anticipated the next operation (predictions, predictions generated by the model, see e.g., C 31-33, EN: predications are inherently created prior to being compared, otherwise, they would not exist), with the anticipated next operation (predictions, predictions generated by the model, see e.g., C 31-33),

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and providing the user with a notification when the anticipated next operation is different from the actual next operation (differences, issues or problems, 144, Fig 4, see e.g., C 31-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of **Luciw** with **Clancey** because using a comparator to compare an anticipated action with an actual next operation creates a more accurate model to the user, instead of problem solving through reasoning. By integrating a comparison of the actual operation with the anticipated operation, the user is able to receive facts the user would be interested in (**Clancey**). **Luciw** and **Clancey** both pertain to the issue of anticipating an operation of a user using user input and predicted user input. A comparator of user input and predicted action is another obvious technique to address this issue.

Claim 25, 26

Luciw disclosed an operation supporting method performed by an information terminal device executing, based on an operation input by a user, a function corresponding to the operation, comprising the steps of:

inputting an operation required by the user (see e.g., col 4-6, for example “words and phrases input either through serial port or via stylus” col 6 lines 36-40 and Figure 1, objects 20 “Display & Input Assembly” and 18 “I/O”);

storing information about the operation input at the inputting step, as an operation history, in a predetermined storing section (see e.g., col 7-10, for example “knowledge base” stores information based on observations of user and user input and “mass storage ... ROM ... hard disk drive” which reads on the storage and operation history);

when the operation is input at the inputting step, anticipating a next operation to be subsequently input by the user after the input operation, based on operation history information stored in the storing section (see e.g., col 1-18 for example "... collecting a number of significant observations into a set. The significant observation set is compared to a plurality of intent templates and, if there is at least one match ... the deductive assistant has deduced a possible intent" col 3 lines 4-13, and col 5 lines 65-68 to col 6 lines 1-3, and Figure 3 represent a hypothesis and intent of the user based on the user's previous actions, which reads on anticipating);

Luciw does not particularly call for

comparing an actual next operation, which is newly input after said anticipating, with the anticipated next operation; and

providing the user with a notification when the anticipated next operation is different from the actual next operation.

However **Clancey** teaches

comparing an actual next operation (comparator, see e.g., col 31-33), which is newly input after said anticipating (actions of the user, see e.g., col 31-33), with the anticipated next operation (predictions, see e.g., col 31-33); and

providing the user with a notification when the anticipated next operation is different from the actual next operation (differences, issues or problems, 144, Fig 4, see e.g., C 31-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of **Luciw** with **Clancey** because using a comparator to compare an anticipated action with an actual next operation creates a more accurate model to the

user, instead of problem solving through reasoning. By integrating a comparison of the actual operation with the anticipated operation, the user is able to receive facts the user would be interested in (**Clancey**). **Luciw** and **Clancey** both pertain to the issue of anticipating an operation of a user using user input and predicted user input. A comparator of user input and predicted action is another obvious technique to address this issue.

Response to Arguments

In Re pages 20-23, Applicant argues Claims 1, 23-26 have been amended to further distinguish the present invention from the prior art. Applicant argues that the claimed limitation in amended claim 1 “comparing the actual next operation ... when the anticipated next operation” and “providing the user with a notification when the anticipated next operation is different from the actual operation”, are neither disclosed nor suggested by **Luciw**.

Applicant's arguments have been considered, but are moot in view of the new grounds of rejection. Applicant's amendment necessitated the new grounds of rejection presented in this Office Action. The reference **Clancey** discloses the limitation of comparing the anticipated next operation with the actual new operation. Both **Luciw** and **Clancey** create an anticipated user action based on actual user input. **Clancey** employs the obvious technique of comparing the actual user input with the anticipated user input and displaying the result to the user if there is a difference in between the two. This technique allows for the creation of a more accurate predication of user actions. The rejection of claims 1, 4-13, 17, 18, 20-26 STANDS.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

- Lenchik (Patent No. 5552806)
- Barrett et al. (Patent No. 5727129)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa J. Berman whose telephone number is 571-270-1393. The examiner can normally be reached on 9/4/5.

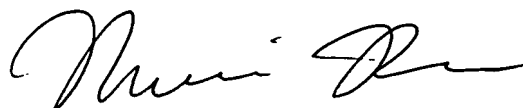
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJB

Melissa J Berman



DAVID VINCENT
SUPERVISORY PATENT EXAMINER